

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A mapping table in a memory of a computer system for referencing rows of a primary B+tree, the mapping table comprising:
a row for each row of the primary B+tree[[]], wherein each row of the mapping table comprises a primary key value from the primary B+tree and the mapping table provides one-to-one mapping between primary keys of the primary B+tree structure and physical row identifiers of the mapping table.

2. (cancelled)

3. (cancelled)

4. (original) The mapping table according to claim 1, wherein each row of the mapping table comprises a guess-DBA, database block address of a leaf block of the primary B+tree, where the corresponding primary B+tree row is likely to be found.

5. (currently amended) A primary B+tree in a memory of a computer system, comprising:

mapping table row identifiers, each mapping table row identifier stored in [[each]] a row of the primary B+tree, the mapping table row identifiers comprising a physical row identifier of a corresponding mapping table row.

6. (original) The primary B+tree according to claim 5, wherein the mapping table row identifiers are stored at a fixed offset from a beginning of each row of the primary B+tree.

7. (currently amended) An auxiliary structure for a primary B+tree in a memory of a computer system, the auxiliary structure comprising:

row identifiers of corresponding mapping table rows, the row identifiers referring to a primary B+tree row.

8. (currently amended) A method for loading/populating a primary B+tree in a memory of a computer system having an associated mapping table, the method comprising:

generating a row of the mapping table for each row of the primary B+tree;
and

storing in each row of the mapping table a row identifier for a corresponding row of the primary B+tree, the row identifier comprising a primary key column value for each row of the primary B+tree and a guess-DBA.

9. (currently amended) A method for maintaining a circular dependency between a mapping table row in a memory of a computer system and a primary B+tree row in the memory of the computer system, the method comprising:

computing a length of a mapping table row based upon a length of a primary key and an overhead of a guess-DBA;

utilizing the computed length to identify a mapping table block that can accommodate the row;

reserving a slot in the identified mapping table block, wherein an address of the block and a reserved slot form a mapping table physical row identifier;

inserting a primary B+tree row containing the physical row identifier into the primary B+tree;

utilizing a leaf block address of the primary B+tree row to construct a row of the mapping table; and

inserting the mapping table row in the reserved slot.

10. (original) The method according to claim 9, further comprising:

carrying out a partition maintenance operation on the primary B+tree; and

rebuilding the mapping table after the partition maintenance.

11. (original) The method according to claim 9, further comprising:
carrying out a partition maintenance operation on the primary B+tree; and
maintain the mapping table during the partition maintenance.

12. (original) The method according to claim 9, further comprising:
carrying out a partition maintenance operation on the primary B+tree and
rebuilding the mapping table on-line.

13. (original) A computer program product for performing a process for
indexing a primary B+tree, the computer program product comprising:
a computer readable medium; and
computer program instructions, recorded on the computer readable
medium, executable by a processor, for performing the steps of:
generating a row of a mapping table for each row of the primary B+tree;
and
storing in each row of the mapping table a row identifier for a
corresponding row of the primary B+tree, the identifier comprising a primary key
column value and a guess-database address for each row of the primary B+tree.

14. (original) A system for performing a process for indexing a primary B+tree, the system comprising:

a processor operable to execute computer program instructions; and

a memory operable to store computer program instructions executable by the processor, for performing the steps of:

generating a row of a mapping table for each row of the primary B+tree;

and

storing in each row of the mapping table a row identifier for a corresponding row of the primary B+tree, the identifier comprising a primary key column value and a guess-database address for each row of the primary B+tree.

Row ID $\left\{ \begin{array}{l} \text{primary Key.} \\ \text{DBA} \end{array} \right.$